SEQUENCE LISTING

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tca Ser	ctg Leu	gta Val	gct Ala	gtc Val 165	att Ile	ccg Pro	atg Met	acc Thr	ttc Phe 170	ttg Leu	atc Ile	aca Thr	tca Ser	acc Thr 175	aac Asn	528
agg Arg	acc Thr	aac Asn	aga Arg 180	tca Ser	gec Ala	tgt Cys	ctc Leu	gac Asp 185	ctc Leu	acc Thr	agt Ser	tcg Ser	gat Asp 190	gaa Glu	ctc Leu	576
aat Asn	Thr	att Ile 195	aag Lys	tgg Trp	tac Tyr	aac Asn	ctg Leu 200	att Ile	'ttg Leu	act Thr	gca Ala	act Thr 205	act Thr	ttc Phe	tgc Cys	624
ctc Leu	Pro 210	ttg Leu	gtg Val	ata Ile	gtg Val	aca Thr 215	ctt Leu	tgc Cys	tat Tyr	acc Thr	acg Thr 220	att Ile	atc Ile	cac His	act Thr	672
ctg Leu 225	acc Thr	cat His	gga Gly	ctg Leu	caa Gln 230	act Thr	gac Asp	agc Ser	tgc Cys	ctt Leu 235	aag Lys	cag Gln	aaa Lys	gca Ala	cga Arg 240	720
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ttc Phe	cat His	atc Ile	ttg Leu 260	agg Arg	gtc Val	att Ile	egg Arg	atc Ile 265	gaa Glu	tct Ser	ege Arg	ctg Leu	ctt Leu 270	tca Ser	atc Ile	816
agt Ser	tgt Cys	tcc Ser 275	att Ile	gag Glu	aat Asn	cag Gln	atc Ile 280	cat His	gaa Glu	gct Ala	tac Tyr	atc Ile 285	gtt Val	tct Ser	aga Arg	864
cca Pro	tta Leu 290	gct Ala	gct Ala	ctg Leu	aac Asn	acc Thr 295	ttt Phe	ggt Gly	aac Asn	ctg Leu	tta Leu 300	cta Leu	tat Tyr	gtg Val	gtg Val	912
gtc Val 305	agc Ser	gac Asp	aac Asn	ttt Phe	cag Gln 310	cag Gln	gct Ala	gtc Val	tgç Cys	tca Ser 315	aca Thr	gtg Val	aga Arg	tgc Cys	aaa Lys 320	960
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Tyr Ala Ala Ala Phe Gly Asn Cys Thr Asp Glu Asn Ile Pro Leu Lys 20 25

Met His Tyr Leu Pro Val Ile Tyr Gly Ile Ile Phe Leu Val Gly Phe 35 40 45

Pro Gly Asn Ala Val Val Ile Ser Thr Tyr Ile Phe Lys Met Arg Pro 50 55 60

Trp Lys Ser Ser Thr Ile Ile Met Leu Asn Leu Ala Cys Thr Asp Leu 65 70 75 80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly 85 90 95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Ser 100 105 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser 115 120 125

Ile Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile 130 135 140

His Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile 145 150 155 160

Ser Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn 165 170 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu 180 185 190

Asn Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Thr Thr Phe Cys 195 200 205

Leu Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr 210 215 220

Leu Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg 225 230 240

Arg Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro 245 250 255

Phe His Ile Leu Arg Val Ile Arg Ile Glu Ser Arg Leu Leu Ser Ile 260 265 270

Ser Cys Ser Ile Glu Asn Gln Ile His Glu Ala Tyr Ile Val Ser Arg 275 280 285

- 4 -

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Val. 305	Ser	Asp	Asn	Phe	Gln 310	Gln	Ala	Val	Cys	Ser 315	Thr	Val	Arg	Сўз	Lys 320	
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Pro							•									
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	cca Pro															96
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	20 GJÅ GGÅ															192
	agg Arg															240
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ctc Leu	ttc Phe 130	cgt Arg	tac Tyr	gtt Val	gtg Val	atc Ile 135	att Ile	cac His	ccg Pro	atg Met	agc Ser 140	tgc Cys	ttt Phe	tct Ser	att Ile	432

cag Gln 145	aaa Lys	act Thr	cgc Arg	tgg Trp	gca Ala 150	Val	gta Val	gct Ala	tgt Cys	gcc Ala 155	G17 G33	gtg Val	tgg Trp	gtc Val	att Ile 160	480
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cgg Arg	acc Thr	aat Asn	agg Arg 180	tct Ser	gct Ala	tgc Cys	ctt Leu	gac Asp 185	ctc Leu	acc Thr	agt Ser	tca Ser	gat Asp 190	gac Asp	ctc Leu	576
act Thr	act Thr	atc Ile 195	aag Lys	tgg Trp	tac Tyr	aat Asn	ctc Leu 200	att Ile	ttg Leu	aca Thr	gcc Ala	acc Thr 205	act Thr	ttc Phe	tgc Cys	624
ctg Leu	cca Pro 210	ttg Leu	gtg Val	ata Ile	gtg Val	aca Thr 215	ctt Leu	tgc Cys	tac Tyr	acg Thr	aca Thr 220	att Ile	atc Ile	agt Ser	acc Thr	672
ctg Leu 225	act Thr	cac His	ejā aaa	cct Pro	cgg Arg 230	acc Thr	cac His	agc Ser	tgc Cys	ttt Phe 235	aag Lys	cag Gln	aag Lys	gct Ala	cgg Arg 240	720
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ttc Phe	cac His	atc Ile	ttg Leu 260	agg Arg	gtc Val	att Ile	cgg Arg	atc Ile 265	gaa Glu	tct Ser	cgc Arg	ctg Leu	ctt Leu 270	tca Ser	atc Ile	816
agc Ser	Cys Cys	tcc Ser 275	atc Ile	gag Gl _u	agt Ser	cac His	atc Ile 280	cac His	gaa Glu	gct Ala	tac Tyr	att Ile 285	gtt Val	tct Ser	aga Arg	864
Pro	Leu 290	Ala	gct Ala	Leu	Asn	Thr 295	Phe	Gly	Asn	Leu	Leu 300	Leu	Tyr	Val	Val	912
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gcc Ala	agt Ser	ejā aaa	gac Asp	ctt Leu 325	gaa Glu	caa Gln	gga Gly	aag Lys	aaa Lys 330	gac Asp	agt Ser	tgc Cys	tca Ser	aac Asn 335	aac Asn	1008
cct Pro	tga															1014

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Pro Gly Asn Thr Val Ala Ile Ser Ile Tyr Ile Phe Lys Met Arg Pro 50 55 60

Trp Arg Gly Ser Thr Val Ile Met Leu Asn Leu Ala Leu Thr Asp Leu 65 70 75 80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly 85 90 95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Gly 100 105 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser 115 120 125

Leu Phe Arg Tyr Val Val Ile Ile His Pro Met Ser Cys Phe Ser Ile 130 135 140

Gln Lys Thr Arg Trp Ala Val Val Ala Cys Ala Gly Val Trp Val Ile 145 150 155 160

Ser Leu Val Ala Val Met Pro Met Thr Phe Leu Ile Thr Ser Thr Thr 165 170 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Asp Leu 180 185 190

Thr Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Thr Thr Phe Cys 195 200 205

Leu Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile Ser Thr 210 215 220

Leu Thr His Gly Pro Arg Thr His Ser Cys Phe Lys Gln Lys Ala Arg 225 230 235 240

Arg Leu Thr Ile Leu Leu Leu Val Phe Tyr Ile Cys Phe Leu Pro 245 250 255

Phe His Ile Leu Arg Val Ile Arg Ile Glu Ser Arg Leu Leu Ser Ile 260 265 270

Ser Cys Ser 275	Ile Glu Ser	His Ile 1 280	His Glu	Ala Tyr	Ile Val 285	Ser Arg	
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Val Ser Asn 305	Asn Phe Gln 310	Gln Ala	Phe Cys	Ser Ile 315	Val Arg	Cys Lys 320	
Ala Ser Gly	Asp Leu Glu 325	Glu Gjy 1	Lys Lys 330	Asp Ser	Cys Ser	Asn Asn 335	
Pro		•					
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<220>	J						
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tac ata act Tyr Ile Thr	gct ttg gaa Ala Leu Glu 20	Asn Cys 1	act gat Thr Asp 25	gag caa Glu Gln	atc tca Ile Ser 30	ttc aag Phe Lys	96
atg cag tac Met Gln Tyr : 35	ctt ccc gtc Leu Pro Val	atc tac a Ile Tyr S 40	agc atc Ser Ile	atc ttt Ile Phe	ctc gtg Leu Val 45	ggc ttc Gly Phe	144
Pro Gly Asn 5	acg gtg gcg Thr Val Ala	att tcc a Ile Ser I 55	atc tac [le Tyr	gtt ttc Val Phe 60	aag atg Lys Met	cga cct Arg Pro	192
tgg aag agc a Trp Lys Ser a 65	agt acc atc Ser Thr Ile 70	atc atg o	Leu Asn	ctg gcc Leu Ala 75	ttg acg Leu Thr	gac ttg Asp Leu 80	240
ctg tat ctg a Leu Tyr Leu !	ace age ete Thr Ser Leu 85	cct ttc c Pro Phe I	etc atc d Leu Ile 1 90	cat tat His Tyr	tac gcg Tyr Ala	agc ggt Ser Gly 95	288
gaa aac tgg : Glu Asn Trp :	atc ttc ggg Ile Phe Gly 100	Asp Phe M	etg tgc : Met Cys : 105	aag ttc Lys Phe	atc cga Ile Arg 110	ttt ggc Phe Gly	336
ttc cat ttc a Phe His Phe 1 115	aac ctt tac Asn Leu Tyr	agc agc a Ser Ser I 120	itc ctc : :le Leu :	Phe Leu	acc tgc Thr Cys 125	ttt agc Phe Ser	384

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Thr	Thr	atc Ile 195	Lys	Trp	Tyr	Asn	Leu 200	Ile	Leu	Thr	Ala	Thr 205	Thr	Phe	Суз	624
Leu	Pro 210	ttg Leu	Leu	Ile	Val	Thr 215	Leu	Суз	Tyr	Thr	Thr 220	Ile	Ile	Ser	Thr	672
Leu 225	Thr	cac His	Gly	Pro	Arg 230	Thr	His	Ser	Cys	Phe 235	Lys	Gln	Lys	Ala	Arg 240	720
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Phe	His	Ile	Leu 260	Arg	Val	Ile	Arg	11e 265	Glu	Ser	Arg	Leu	Leu 270	Ser		816
Ser	Суз	tcc Ser 275	Ile	Glu	Ser	His	11e 280	His	Glu	Ala	Tyr	11e 285	Val	Ser	Arg	864
Pro	Leu 290	gct Ala	Ala	Leu	Asn	Thr 295	Phe	Gl¥	Asn	Leu	Leu 300	Leu	Tyr	Val	Val	912
Val 305	Ser	aat Asn	Asn	Phe	Gln 310	Gln	Ala	Phe	Суз	Ser 315	Ala	Val	Arg	Суз	Lys 320	960
Ala	Ile	GJĀ āāā	gac Asp	ctt Leu 325	gaa Glu	caa Gln	gca. Ala	aag Lys	aaa Lys 330	gac Asp	agt Ser	tgc Cys	tca Ser	aac Asn 335	aac Asn	1008
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Pro Gly Asn Thr Val Ala Ile Ser Ile Tyr Val Phe Lys Met Arg Pro 50 55 60

Trp Lys Ser Ser Thr Ile Ile Met Leu Asn Leu Ala Leu Thr Asp Leu 65 70 75 80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly 85 90 95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Gly 100 105 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser 115 120 125

Leu Phe Arg Tyr Ile Val Ile Ile His Pro Met Ser Cys Phe Ser Ile 130 135 140

Gln Lys Thr Arg Trp Ala Val Val Ala Cys Ala Gly Val Trp Val Ile 145 150 155 160

Ser Leu Val Ala Val Met Pro Met Thr Phe Leu Ile Thr Ser Thr Thr 165 170 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Asp Leu 180 185 190

Thr Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Thr Thr Phe Cys 195 200 205

Leu Pro Leu Leu Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile Ser Thr 210 215 220

Leu Thr His Gly Pro Arg Thr His Ser Cys Phe Lys Gln Lys Ala Arg 225 230 235 240

Arg Leu Thr Ile Leu Leu Leu Leu Val Phe Tyr Val Cys Phe Leu Pro 245 250 255 Phe His Ile Leu Arg Val Ile Arg Ile Glu Ser Arg Leu Leu Ser Ile 260 265 270

Ser Cys Ser Ile Glu Ser His Ile His Glu Ala Tyr Ile Val Ser Arg 275 280 285

Pro Leu Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val Val 290 295 300

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Ala Ile Gly Asp Leu Glu Gln Ala Lys Lys Asp Ser Cys Ser Asn Asn 325 330 335

Pro

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